SANTA CRUZ BIOTECHNOLOGY, INC.

$G_{\alpha\ s/olf}$ (C-10): sc-377435

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Heterotrimeric G proteins function to relay information from cell surface receptors to intracellular effectors. Each of a very broad range of receptors specifically detects an extracellular stimulus (a photon, pheromone, odorant, hormone or neurotransmitter) while the effectors (e.g., adenyl cyclase), which act to generate one or more intracellular messengers, are less numerous. In mammals, G protein α, β and γ polypeptides are encoded by at least 16, 4 and 7 genes, respectively. Most interest in G proteins has been focused on their α subunits, since these proteins bind and hydrolyze GTP and most obviously regulate the activity of the best studied effectors. More recent evidence, however, has established an important regulatory role for the $\beta\gamma$ subunits. The G_s subfamily of G_α subunits includes two closely related proteins, $G_{\alpha\ s}$ and $G_{\alpha\ olf}$, which respectively stimulate adenylate cyclase and mediate response to olfactory stimuli.

CHROMOSOMAL LOCATION

Genetic locus: GNAS (human) mapping to 20q13.32, GNAL (human) mapping to 18p11.21; Gnas (mouse) mapping to 2 H4, Gnal (mouse) mapping to 18 E1.

SOURCE

$G_{\alpha\ s/olf}$ (C-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 369-394 at the C-terminus of $G_{\alpha\ s}$ of rat origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-377435 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

$G_{\alpha\ s/olf}$ (C-10) is recommended for detection of $G_{\alpha\ s}$ and $G_{\alpha\ olf}$ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

$G_{\alpha\ s/olf}$ (C-10) is also recommended for detection of $G_{\alpha\ s}$ and $G_{\alpha\ olf}$ in additional species, including canine, bovine, porcine and avian.

Molecular Weight of $G_{\alpha\ s}$ long form: 52 kDa.

Molecular Weight of $G_{\alpha\ s}$ short form: 45 kDa.

Molecular Weight of $G_{\alpha\ olf}$: 45 kDa.

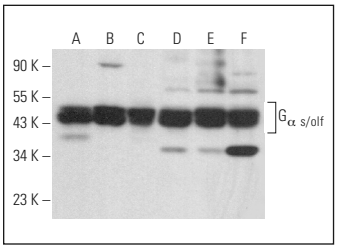
Molecular Weight of $G_{\alpha\ s/olf}$ proteolytic fragment: 39 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, T98G cell lysate: sc-2294 or NIH/3T3 whole cell lysate: sc-2210.

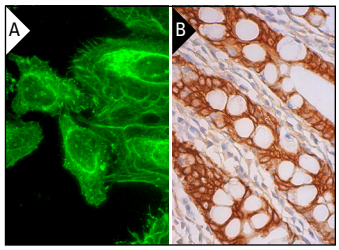
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



$G_{\alpha\ s/olf}$ (C-10): sc-377435. Western blot analysis of $G_{\alpha\ s/olf}$ expression in T98G (**A**), IMR-32 (**B**) and NIH/3T3 (**C**) whole cell lysates and mouse postnatal brain (**D**), rat brain (**E**) and rat cerebellum (**F**) tissue extracts.



$G_{\alpha\ s/olf}$ (C-10): sc-377435. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human rectum tissue showing membrane and cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Chowdhury, D., et al. 2018. Ca^{2+}/calmodulin binding to PSD-95 mediates homeostatic synaptic scaling down. EMBO J. 37: 122-138.
2. Wang, R., et al. 2019. Ginsenoside metabolite compound-K regulates macrophage function through inhibition of β-Arrestin-2. Biomed. Pharmacother. 115: 108909.
3. Triana-Garcia, P.A., et al. 2021. Gross morphology, histology, and ultrastructure of the olfactory rosette of a critically endangered indicator species, the Delta Smelt, *Hypomesus transpacificus*. J. Comp. Physiol. A Neuroethol. Sens. Neural Behav. Physiol. 207: 597-616.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

CONJUGATES

See **$G_{\alpha\ s/olf}$ (A-5): sc-55545** for $G_{\alpha\ s/olf}$ antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.